AMENDMENTS

IN THE TITLE:

On the cover page, delete "STREPTOCOCCUS PYOGENES VACCINE" and insert --VACCINES CONTAINING CYSTEINE PROTEASE AND METHODS TO PROTECT AGAINST GROUP A *STREPTOCOCCI*.--.

IN THE CLAIMS:

Claim 1. (Once amended) A vaccine against [*Streptococcus pyogenes*] Group A streptococcal infection, comprising:

a physiologically acceptable non-toxic vehicle containing a conserved cysteine protease in an amount sufficient to confer immunity to Group A streptococcal infection.

Claim 2. (Once amended) The vaccine of claim 1, wherein said cysteine protease is a streptococcal pyrogenic exotoxin B or fragments [or derivatives thereof].

Claim 3. (Reiterated) The vaccine of claim 1, wherein said cysteine protease is a synthetic peptide.

Claim 4. (Reiterated) The vaccine of claim 1, wherein said streptococcal infection is selected from the group consisting of pharyngitis, tonsillitis, skin infections, acute rheumatic fever, scarlet fever, post-streptococcal glomerulonephritis and toxic-shock-like syndrome.

Claim 5. (Reiterated) The vaccine of claim 1, further comprising a streptococcal M protein antigen.

Claim 6. (Reiterated) A method of immunizing mammals against *Streptococcus pyogenes* infection, comprising:

administering the vaccine of claim 1 to a mammal in an amount sufficient to confer immunity to a *Streptococcus pyogenes* infection.

Claim 7. (Reiterated) The method of claim 6, wherein said vaccine is given by parenteral administration.

Claim 8. (Reiterated) The method of claim 7, wherein said parenteral administration is selected from a group consisting of subcutaneous administration and intramuscular administration.

Claim 9. (Reiterated) The method of claim 6, wherein said vaccine is administered orally.

Claim 10. (Reiterated) The method of claim 6, wherein said *Streptococcus pyogenes* infection is selected from the group consisting of pharyngitis, tonsillitis, skin infections, acute rheumatic fever, scarlet fever, post-streptococcal glomerulonephritis, sepsis and toxic-shock-like syndrome.

Claim 11. (Reiterated) The method of claim 6, wherein said vaccine is administered in multiple doses.

Claim 12. (Reiterated) A method of immunizing mammals against *Streptococcus pyogenes* infection, comprising:

administering the vaccine of claim 5 to a mammal in an amount sufficient to confer immunity to a *Streptococcus pyogenes* infection.

Claim 13. (Reiterated) The method of claim 12, wherein said vaccine is given by parenteral administration.

Claim 14. (Reiterated) The method of claim 13, wherein said parenteral administration is selected from the group consisting of subcutaneous administration and intramuscular administration.

Claim 15. (Reiterated) The method of claim 12, wherein said vaccine is administered orally.

Claim 16. (Reiterated) The method of claim 12, wherein said infection is selected from the group consisting of pharyngitis, tonsillitis, skin infections, acute rheumatic fever, scarlet fever, post-streptococcal glomerulonephritis, sepsis, and toxic-shock-like syndrome.

Claim 17. (Reiterated) The method of claim 12, wherein said vaccine is administered in multiple doses.

IN THE ABSTRACT:

Page 43, first line delete "*Streptococcus Pyogenes* Vaccine" and insert --VACCINES CONTAINING CYSTEINE PROTEASE AND METHODS TO PROTECT AGAINST GROUP A *STREPTOCOCCI*--.

REMARKS

The Present Invention

The claimed invention includes vaccines against Group A *Streptococcus,* and methods for vaccinating mammals using such vaccines. The claimed vaccines include a group A streptococcal cysteine protease, which confers protection against any group A streptococcal infection. The invention overcomes major obstacles that had previously precluded